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EXAMINER	
SITTA, GRANT	

ART UNIT	PAPER NUMBER
2629	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/811,892	KIM, EUN-SUP	
	Examiner	Art Unit	
	GRANT D. SITTA	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 June 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 19 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. With respect to claims 19 and 20, Applicant asserts wherein the inverter is turned off during a display mode change to prevent the backlight from being turned off. However, the backlight is controlled by the inverter and if the inverter is turned off the backlight will also be turned off.

Specification

4. The disclosure is objected to because of the following informalities: paragraphs [0040-0042] if the inverter is turned off the backlight will also be turned off, it is not clear how turning off the inverter prevents the backlight from being turned off as disclosed in the last line of [0041].

Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 13 and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Saito et al (6,404,145) hereinafter, Saito.

7. In regards to claim 13, Saito teaches a method of driving backlights before, during, and after a change in a display mode, and turned on thereafter, the method comprising (col. 1, lines 28-67 of Saito):

driving the backlights in synchronization with a first synchronization signal in a video signal (fig. 3 sync signal);

determining whether the first synchronization signal has been transiently changed (fig. 3 sync signal and the change when the sync signal goes from (on) to (off));

stopping the driving, if the display mode is changed (fig. 3 video signal is stopped);

checking whether the display mode change is completed (fig. 3 sync signal and video signal); and

resuming driving the backlights (fig. 3 backlight control voltage) in synchronization with a second synchronization (fig. 3 sync signal) signal in a video signal (fig. 3 video signal) if the display mode change is completed (fig. 3 from off to on).

8. In regards to claim 21, Saito teaches a method of controlling a liquid crystal display having backlights in which selectively input video signals are converted into digital video signals to be sampled, comprising (col. 1, lines 25-67):

extracting a first synchronization signal from the sampled digital video signals (col. 2, lines 5-15);

driving the backlights in synchronization with the first synchronization signal (fig. 3 sync and backlight);

stopping the driving if the first synchronization signal of the liquid crystal display is transiently changed (fig. 3 sync and backlight off and on);

extracting a second synchronization signal from the sampled digital video signals (fig. 3 sync Examiner is considering the first and second synchronization signals the same signal);

driving the backlights in synchronization with the second synchronization signal if the changing of the display mode is determined to be completed (fig. 3 backlight and sync signal).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims 1, 3-8, 10-12, 14-15, 17-20, 22-24,and 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over, Saito et al (6,404,145) hereinafter, Saito in view of Park et al (7,098,903) hereinafter, Park.

11. In regards to claim 1, Saito discloses the limitations of a liquid crystal display (fig. 1 (4)), having a liquid crystal panel and backlights (fig. 1 (5)), comprising:

a signal converter (fig. 1 (3)) to convert selectively input analogue video signals into digital video signals in synchronization with a first predetermined sampling clock signal (fig. 1 signal from 6), a panel driver to display the digital video signals on the liquid crystal panel (fig. 1 (3));

a controller to detect the extracted horizontal synchronization signal from the digital video signals to determine a display mode (fig. 1 (10) and (6)), to output the first and second predetermined sampling clock signals to the signal converter (fig. 1 (6) to 3 and 10), according to the determined display mode (fig. 1 (3)), and to generate on/off signals whenever the horizontal synchronization signal is transiently changed (col. 5, lines 54-67); and

to drive the backlights in synchronization with the detected horizontal synchronization signal and the on/off signals . ("Although the backlight lamp 5 is off during the vertical synchronization period in this embodiment, it may also be possible that the backlight lamp 5 is off during the horizontal synchronization period of the horizontal synchronizing signal. This is especially effective in a case where the backlight lamp 5 is realized by a high speed response element or a semiconductor light emitting device such as an LED." Col. 5, lines 38-45)

Saito differs from the claimed invention in that Saito does not *explicitly* disclose a scaler to sample the digital video signals at a preset resolution in synchronization with a

second predetermined sampling clock signal, and to extract a horizontal synchronization signal from the sampled digital video signals; and an inverter.

However, Park teaches a system and method for a scaler (fig. 1 (340)) to sample a digital video signals at a preset resolution in synchronization with a predetermined sampling clock signal (col. 5, lines 18-27), and to extract a horizontal synchronization signal from a sampled digital video signals (col. 5, lines 18-27); and an inverter to drive the backlight (fig. 1 (110)) (col. 3, lines 18-30 of Park).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Saito to include the use of a scaler and inverter as taught by Park in order to provide a flat panel display with optimize structure and processing for various signals as stated in (col. 2, lines 8-27 of Park).

Therefore Saito as modified by Park teaches a scaler (fig. 1 (340) Park) to sample the digital video signals at a preset resolution (col. 5, lines 28-50 Park) in synchronization with a second predetermined sampling clock signal (col. 4, lines 15-30 Saito), and to extract a horizontal synchronization signal from the sampled digital video signal (col. 4, lines 15-30 Saito).

12. In regards to claim 4, Saito discloses the limitations of a method of controlling to drive backlights in a liquid crystal display (fig. 1 (4)), comprising:

determining whether horizontal synchronization signal transiently changes while video signals are displayed (col. 1,lines 28-54); and

applying backlight off signals to the while the horizontal synchronization signal is changing ("Although the backlight lamp 5 is off during the vertical synchronization period in this embodiment, it may also be possible that the backlight lamp 5 is off during the horizontal synchronization period of the horizontal synchronizing signal. This is especially effective in a case where the backlight lamp 5 is realized by a high speed response element or a semiconductor light emitting device such as an LED." Col. 5, lines 38-45), and applying backlight on signals when the horizontal synchronization signal is detected (col. 4, lines 59-67).

Saito differs from the claimed invention in that Saito does not explicitly disclose an inverter circuit.

However, Park teaches a system and method for using an inverter for a backlight (fig. 1 (110)) col. 4, lines 27-40 of Park).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Saito to include the use of an inverter as taught by Park in order to provide a flat panel display with optimize structure and processing for various signals as stated in (col. 2, lines 8-27 of Park).

13. In regards to claim 6, Saito discloses the limitations of a method in which a controller controls backlights (col. 1, lines 28-42) in a liquid crystal display (col. 1, line 33), comprising:

driving the backlights in synchronization with a first horizontal synchronization signal in a digital video signal when video signals are input (col. 2, lines 4-10);

determining whether a display mode has been changed (col. 5, lines 22-37);

inputting a backlight off signal (col. 5, lines 22-37), if the first horizontal synchronization signal is transiently changed (col. 5, lines 5-14), to control to not drive the backlights (col. 5, lines 22-37);

checking whether the first horizontal synchronization signal mode change is completed (fig. 3 (Vertical SYNC) Examiner notes the picture shows Vertical Sync but states col. 2, lines 4-10 that a horizontal sync can also be used) ; and

inputting an on signal if the first horizontal synchronization signal change is completed (fig. 3 Video signal and Vertical SYNC ON and OFF) so as to control to drive the backlights in synchronization with a second horizontal synchronization signal (fig. 3 backlight control and Vertical SYNC Examiner is viewing the synchronization signal as first and second synchronization signal since the signals do not have to be independent and distinct).

Saito differs from the claimed invention in that Saito does not explicitly disclose controlling an *inverter* to drive a backlights .

However, Park teaches a system and method for using an inverter for a backlight (fig. 1 (110)) col. 4, lines 27-40 of Park).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Saito to include the use of an inverter that is controlled to drive the backlight as taught by Park in order to provide a flat panel display with optimize structure and processing for various signals as stated in (col. 2, lines 8-27 of Park).

14. In regards to claim 19, Saito discloses the limitations of a panel and an backlight in a liquid crystal display having backlights (fig. 3 backlight, sync and video signal), which are synchronized with one another to avoid oscillatory (col. 2, lines 4-16) interference therebetween and to remove noise from a screen (col. 2, lines 23-29),

Saito differs from the claimed invention in that Saito does not explicitly disclose controlling an inverter to drive the backlights.

However, Park teaches a system and method for using an inverter for a backlight (fig. 1 (110)) col. 4, lines 27-40 of Park).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Saito to include an inverter that is controlled to drive a backlight as taught by Park in order to provide a flat panel display with optimize structure and processing for various signals as stated in (col. 2, lines 8-27 of Park).

Therefore, Saito as modified by Park teaches wherein the inverter (fig. 1 (110)) col. 4, lines 27-40 of Park) is turned off during transient horizontal synchronization signal change to prevent the backlights from being turned on (fig. 3 backlight control Saito).

15. In regards to claim 20, Saito discloses the limitations of a panel and an backlight in a liquid crystal display having backlights (fig. 3 backlight, sync and video signal), which are synchronized with one another, (col. 2, lines 4-16 and col. 2, lines 23-29),

Saito differs from the claimed invention in that Saito does not explicitly disclose controlling an inverter to drive the backlights.

However, Park teaches a system and method for using an inverter for a backlight (fig. 1 (110)) col. 4, lines 27-40 of Park).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Saito to include an inverter that is controlled to drive a backlight as taught by Park in order to provide a flat panel display with optimize structure and processing for various signals as stated in (col. 2, lines 8-27 of Park).

Therefore, Saito as modified by Park teaches wherein the inverter (fig. 1 (110)) col. 4, lines 27-40 of Park) is turned off during transient horizontal synchronization signal change to prevent the backlights from being turned on (fig. 3 backlight control Saito).

16. In regards to claim 22, Saito discloses the limitations of a liquid crystal display (fig. 1 (4)), having a liquid crystal panel and backlights (fig. 1 (4 and 5)), comprising:

a signal converter (fig. 1 (3)) to convert a video signal into a digital video signal in synchronization with a first sampling clock signal (fig. 1 signals from 6);

a panel driver (fig. 1 (7)) to display the digital video signals on the liquid crystal panel (fig. 1 (4));

a controller to detect the synchronization signal from the digital video signal to determine a display mode (fig. 1 (3 and 7)).

to drive the backlight in synchronization with a second synchronization signal and an on/off signals (col. 5, lines 5-37).

Saito differs from the claimed invention in that Saito does not disclose a scaler to sample the digital video signal in synchronization with a second sampling clock signal, and to extract a first synchronization signal therefrom;and inverter to drive the backlight.

However, Park teaches a system and method for a scaler (fig. 1 (340)) to sample the digital video signal in synchronization with a second sampling clock signal, and to extract a first synchronization signal therefrom(col. 5, lines 18-27) and an inverter to drive the backlight (fig. 1 (110) (col. 3, lines 18-30 of Park).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Saito to include the use of a scaler and inverter to drive the backlight as taught by Park in order to provide a flat panel display with optimize structure and processing for various signals as stated in (col. 2, lines 8-27 of Park).

Therefore, Saito as modified by Park teaches a controller to detect the synchronization signal from the digital video signal to determine a display mode (fig. 1 (3 and 7) Saito), to output the first and second sampling clock signals (col. 4, lines 15-30) Saito) to the signal converter (fig. 1 (3) Saito) and the scaler (fig. 1 (340)), respectively, according to the determined display mode (fig. 3 (video signal)), and to generate inverter (fig. 1 (110) Park) on/off signals (col. 2, lines 4-16 of Saito) whenever the synchronization signal is transiently is changed (fig. 3 (video signal)); and an inverter (fig. 1 (110) Park) to drive the backlights in synchronization with a second synchronization signal (col. 2, lines 4-16 Saito) and the inverter (fig. 1 (110) Park) on/off signals (col. 5, lines 22-37 Saito).

17. In regards to claims 29, Saito discloses the limitations of a liquid crystal display (fig. 1 (4)), having a liquid crystal panel and backlights (fig. 1 (4 and 5)), comprising:

a signal converter (fig. 1 (3)) to convert a video signal into a digital video signal in synchronization with a first sampling clock signal (fig. 1 signals from 6);

a panel driver (fig. 1 (7)) to display the digital video signals on the liquid crystal panel (fig. 1 (4));

a controller to detect the synchronization signal from the digital video signal to determine a display mode (fig. 1 (3 and 7)).Saito differs from the claimed invention in that Saito does not disclose a scaler to sample the digital video singal in synchronization with a second sampling clock singal and to extract a first synchronization signal therefrom and an inverter to drive the backlight.

However, Park teaches a system and method for scaler to sample the digital video signal in synchronization with a second sampling clock singal and to extract a first synchronization signal therefrom (fig. 1(340) (col. 5, lines 18-27)) and an inverter to drive the backlight (fig. 1 (110) (col. 3, lines 18-30 of Park).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Saito to include the use of a scaler and inverterto drive a backlight as taught by Park in order to provide a flat panel display with optimize structure and processing for various signals as stated in (col. 2, lines 8-27 of Park).

Therefore, Saito as modified by Park teaches a controller to detect the synchronization signal from the digital video signal to determine a display mode (fig. 1

(3 and 7) Saito), to output the first and second sampling clock signals (col. 4, lines 15-30) Saito) to the signal converter (fig. 1 (3) Saito) and the scaler (fig. 1 (340)), respectively, according to the determined display mode (fig. 3 (video signal)), and to generate inverter (fig. 1 (110) Park) on/off signals (col. 2, lines 4-16 of Saito) whenever the synchronization signal is transiently is changed (fig. 3 (video signal)); and an inverter (fig. 1 (110) Park), which is synchronized with the liquid crystal panel to avoid oscillatory interference therebetwen (col. 2, lines 4-16, and col. 2, lines 23-34), to drive the backlights in synchronization with a second signal (fig. 3 backlight control and Vertical SYNC Examiner is viewing the synchronization signal as first and second synchronization signal since the signals do not have to be independent and distinct), Saito and the inverter (fig. 1 (110) Park) on/off signals (col. 2, lines 4-16 of Saito).

18. In regards to claim 3, Saito as modified by Park teaches wherein the controller generates and outputs the inverter (fig. 1 (110) Park) off signals to the inverter (fig. 1 (110) Park) when the horizontal synchronization signal is changed, and continues generating and outputting the inverter off signals until the horizontal synchronization signal is detected (fig. 2 (vertical sync and backlight control and col. 2, lines 5-16) Saito).

19. In regards to claim 5, Saito as modified by Park teaches wherein the horizontal synchronization signal begins to cause a transient effect when changed (col. 2, lines 22-28 Saito).

20. In regards to claim 7, Saito as modified by Park teaches further comprising repeating the checking if the first horizontal synchronization signal change is not completed (fig. 3 video signal and col. 5, lines 22-45 Saito).

21. In regards to claim 8, Saito as modified by Parks teaches skipping the determining, the inputting the inverter off signal, and the checking operations if the user has not changed the first horizontal synchronization signal (fig. 3 and col. 2, lines 27-67 Saito).

22. In regards to claim 10, Saito differs from the claimed invention in that Saito does not disclose wherein the determining comprises determining whether the display mode is changed from a PC to that of a DTV.

However, Park teaches a system and method for wherein the determining comprises determining whether the display mode is changed from a PC to that of a DTV. (fig. 3 Analog RGB and DVI-D input (col. 5, lines 18-51).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Saito to include the use of wherein determining comprises determining whether the display mode is changed from a PC to that of a DTV as taught by Park in order to properly display on the display screen because when a low-resolution are displayed on the high resolution panel, the signals are not displayed on the whole screen but on a part of the screen as stated in (col. 5, lines 18-40 of Park).

23. In regards to claim 11, Saito as modified by Park teaches wherein the checking lasts until the second horizontal synchronization signal is generated (fig. 3 wherein the second vertical sync signal turns from (off) to (on) Saito).

24. In regards to claim 12, Saito as modified by Park teaches wherein the checking comprises determining whether the second horizontal synchronization signal exists in the video signals (fig. 3 wherein the second vertical sync signal turns from (off) to (on) Saito).

25. In regards to claim 14, Saito as modified by Park further comprising repeating the checking if the display mode change is not completed (fig. 3 vertical sync Saito) Examiner notes that the checking will be continues until a new signal is detected).

26. In regards to claim 15, Saito as modified by Park teaches further comprising skipping the determining, the inputting, the stopping, and the checking operations if the display mode is not changed (fig. 3 Vertical sync Saito).

27. In regards to claim 17, Saito as modified by Park wherein the checking lasts until the second synchronization signal is generated (fig. 3 sync signal Saito).

28. In regards to claim 18, Saito as modified Park teaches wherein the checking comprises determining whether the second synchronization signal exists in the video signal (fig. 3 video signal Saito).

29. In regards to claim 23, Saito as modified by Park teaches wherein the controller determines a display mode (fig. 1 (7) and col. 4, lines 1-8 Saito).

30. In regards to claim 24. Saito as modified by Park teaches wherein the controller (fig. 1 (7) and (6) Saito) outputs the first and second sampling clock signals (col. 4, lines 15-30) Saito) to the signal converter (fig. 1 (3) Saito) and the scaler (fig. 1 (340) Park), respectively, according to the determined display mode ((col. 1, lines 28-40) Saito).

31. In regards to claim 28, Saito as modified by Park teaches wherein the controller (fig. 1 (6 and 7) Saito) generates and outputs inverter (fig. 1 (110)) off signals to the inverter when the display mode is changed (col. 2, lines 4-16), and continues generating and outputting inverter off signals until the second synchronization signal is detected (col. 2, lines 4-16, fig. 3 Sync signal).

32. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Saito and Park, and further in view of Yoo et. al (US 2003/0214478) hereinafter, Yoo.

33. In regards to claim 2, Saito and Park discloses the limitations of claim 1,

Saito and Park differ from the claimed invention in that Saito and Park do not disclose the means by which the inverter controls the backlight.

However, Yoo teaches a system and method for a pulse width modulator (fig. 9 (140)) to generate pulse width modulation signals [0122], which are synchronized with the horizontal synchronization signal (figs. 3 Sync Saito), and to turn the pulse width modulation signals on or off ([0122] "on/off") according to the inverter on/off signals generated by the controller [0122 ""The PWM control part is turned on or off by an external on/off control signal"); a switching transformer (fig. 9 (150) which controls the switch Q1) to switch a power supply on or off (fig. 9 Vin (DC)) according to the pulse width modulation signals (fig. 9 signal from 140); and a lamp (fig. 9 (110) [0112] "lamp array") which radiates light using the power supplied by the switching transformer ([0111-0126].

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Saito and Park to include the use of PWM as taught by Yoo in order to control the inverter and backlight assembly as stated in (fig. 9 the lamp driving device, [0112-0126]), since PWM can be used to reduce the total amount of power delivered to a load.

34. In regards to claim 25 Saito and Park as modified by Yoo teaches wherein the inverter comprises a pulse width modulator (fig. 9 (140) Yoo) to generate pulse width modulation signals ([0122] "on/off" Yoo) synchronized with the first synchronization signal (fig. 3 Sync Saito, and to turn the pulse width modulation signals on and off (fig. 9 signal from 140); and a lamp (fig. 9 (110) [0112] "lamp array" Yoo) according to the inverter (fig. 1 (110) Park) on/off signals generated by the controller (col. 1-2, lines 28-16 of Saito).

35. In regards to claim 26, Saito and Park as modified by Yoo teaches wherein the inverter further comprises a switching transformer to switch a power supply on or off according to the pulse width modulation signals input from the pulse width modulator (fig. 9 T1, T3 and 120 Yoo).

36. In regards to claim 27, Saito and Park as modified by Yoo teaches wherein the inverter further comprises a lamp to radiate light using the power supplied by the switching transformer (abstract of Yoo).

37. Claims 9 and 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Saito and Park, in view of Anderson et. al (US 6,678,005) hereinafter, Anderson.

38. In regards to claim 9, Saito and Park discloses the limitations of claim 6

Saito and Park differ from the claimed invention in that Saito and Park do not disclose wherein the determining comprises recognizing key signals as first horizontal synchronization change signals if the video signals are those of a PC and are displayed when the user inputs the key signals to change the video signals.

However, Anderson teaches a system and method for recognizing key signals (Examiner notes key signals will be necessary when the user is prompted with the choice) as first horizontal synchronization change signals if the video signals are those of a PC (Abstract "PC") and are displayed (fig. 3, (370)) when the user inputs the key signals to change the video signals (fig. 3 (360). (col. 2, lines 20-50 of Anderson).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Saito and Park to include the use of means recognizing key signals as display mode change when the video signal are those of a PC as taught by Anderson in order to "…accommodate for concurrent presence of multiple video signals in a PC or TV environment." as stated in (col. 2, lines 15-20 of Anderson).

39. Claim 16 is rejected for the same reasoning as claim 9.

Response to Arguments

40. Applicant's arguments filed 06/23/2009 have been fully considered but they are not persuasive.

In response to Applicant's remarks that Saito does not teach a controller to generate inverter on/off signals whenever the horizontal synchronization is transiently changed (Remarks, pg 8, line 7-8). Examiner respectfully disagrees the prior art of record fails to teach the pertinent limitations.

Examiner is relying on Saito in view of Park to teach the above limitations. Saito teaches controlling a backlight lamp is kept off during a synchronization period of synchronizing signal. Thus, as the synchronization signal transitions from ON/OFF the backlight control voltage is transitioned from ON/OFF. As shown below with respect to Fig. 3. Examiner notes while a vertical SYNC signal is shown below in col. 2, lines 5-16 Saito discloses also using a horizontal SYNC signal.

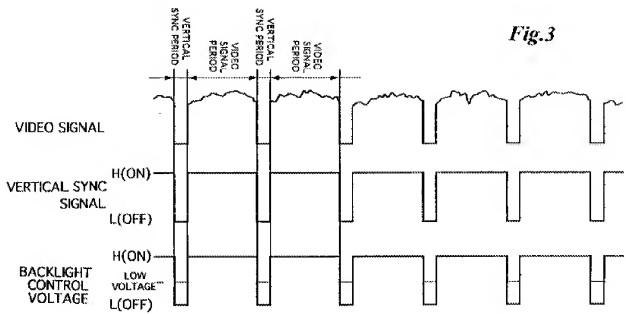

Fig.3

While Saito fails to expressly teach an inverter, Park teaches using an inverter (col. 3, lines 47-48). An inverter is an electric device that converts DC to AC and as disclosed in Park is used for "generating the backlight driving power" (col. 3, lines 47-48).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Saito to include the use of an inverter as taught by Park in order to provide a flat panel display with optimize structure and processing for various signals as stated in (col. 2, lines 8-27 of Park).

Also, Examiner notes as shown above in Fig. 3 of Saito the horizontal synchronization signal (shown as vertical sync signal but as disclosed in col.2, lines 5-16 could also include horizontal sync signal) transiently changes. Examiner does not believe "transiently changes" is disguisable from the prior art of record as the changes in fig. 3 are transient, or quick.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GRANT D. SITTA whose telephone number is (571)270-1542. The examiner can normally be reached on M-F 9-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on 571-272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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September 9, 2009